

**Amendments to the Claim:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1 (currently amended). A recombinant, prototrophic micro-organism exhibiting an increased level of galactose uptake rate when cultured on a nutrient source providing galactose, said micro-organism being a yeast or other fungi having the ability to grow on minimal medium and over expressing ~~the activity of~~ PGM2 which is an enzyme catalysing the conversion of glucose-1 phosphate to glucose-6 phosphate in the galactose uptake and metabolism pathway, compared to a reference micro-organism having a native level of activity expression of said enzyme and from which the recombinant micro-organism is derived, wherein said over expression of said enzyme ~~activity (1)~~ is due to said micro-organism having multiple copies of a gene coding for said enzyme ~~and/or (2) or~~ or is due to a gene coding for ~~the~~ said enzyme being under the control of a genetic control sequence which has been recombinantly introduced and which is not natively associated with said gene.

2 (currently amended). A The micro-organism ~~as claimed in of~~ claim 1, wherein said micro-organism is a yeast ~~and said enzyme is a phosphoglucomutase.~~

3 (cancelled).

4 (currently amended). A The micro-organism ~~as claimed in of~~ claim 1, wherein said enzyme ~~activity~~ is expressed in the micro-organism at a level which is 1.5 or more times that of said reference micro-organism.

5 (currently amended). A The micro-organism ~~as claimed in of~~ claim 1, having multiple copies of a gene coding for ~~the~~ said enzyme.

6 (currently amended). A The micro-organism ~~as claimed in of~~ claim 1, wherein a gene coding for ~~the~~ said enzyme is under the control of a genetic control sequence which has been

recombinantly introduced and which is not natively associated with said gene, leading to ~~said~~ over expression of said enzyme activity.

7 (cancelled).

8 (currently amended). A ~~The~~ micro-organism ~~as claimed in~~ of claim 2, which is a *Saccharomyces cerevisiae* strain.

9 (currently amended). A ~~The~~ micro-organism ~~as claimed in~~ of claim 1, which exhibits an increase of maximum specific galactose uptake rate of at least 10% in comparison to the maximum specific galactose uptake rate in a said reference micro-organism.

10 (currently amended). A ~~The~~ micro-organism ~~as claimed in~~ of claim 1, which exhibits an increase of said enzyme activity expression of at least 2 fold in comparison to the enzyme expression in a said reference micro-organism.

11 (currently amended). A ~~The~~ micro-organism ~~as claimed in~~ of claim 1, which exhibits an increased maximum specific ethanol production rate compared to the maximum specific ethanol production rate in said reference micro-organism.

12 (currently amended). A ~~The~~ micro-organism ~~as claimed in~~ of claim 10, wherein said specific ethanol production rate is increased by at least a factor of 1.5 relative to the rate in said reference microorganism.

13 (new). The micro-organism of claim 2, which is a *Saccharomyces*, *Kluveromyces*, *Candida*, or *Pichia* yeast.

14 (new). The micro-organism of claim 2, which is a strain of *S. cerevisiae*, *S. kluyveri*, *S. bayanus*, *S. exiguus*, *S. sevazzi*, *S. uvarum*, *K. lactis*, *K. marxianus* var. *marxianus*, *K. thermotolerans*, *C. utilis*, *C. tropicalis*, *P. stipidis*, *P. pastoris*, *P. sorbitophila*, *Debaromyces hansenii*, *Hansenula polymorpha*, *Yarrowia lipolytica*, *Zygosaccharomyces rouxii*, *Schizosaccharomyces pombe*, *Aspergillus niger*, *Aspergillus awamori*, *Aspergillus oryzae*, *Aspergillus nidulans*, *Penicillium chrysogenum*, or *Rhizopus oryzae*.

15 (new). A method of ethanol production, lactic acid

production, or citric acid production, comprising growing a micro-organism on a galactose containing nutrient source to produce ethanol as a metabolite, wherein said micro-organism is a recombinant, prototrophic micro-organism exhibiting an increased level of galactose uptake rate when cultured on a nutrient source providing galactose, said micro-organism being a yeast or other fungi having the ability to grow on minimal medium and over expressing PGM2, which is an enzyme catalysing the conversion of glucose-1 phosphate to glucose-6 phosphate in the galactose uptake and metabolism pathway, compared to a reference micro-organism having a native level of expression of said enzyme and from which the recombinant micro-organism is derived, wherein said over expression of said enzyme is due to said micro-organism having multiple copies of a gene coding for said enzyme or is due to a gene coding for the said enzyme being under the control of a genetic control sequence which has been recombinantly introduced and which is not natively associated with said gene, and recovering ethanol, lactic acid, or citric acid therefrom.

16 (new). The method of claim 15, wherein said micro-organism is a yeast.

17 (new). The method of claim 15, wherein said enzyme activity is expressed in the micro-organism at a level which is 1.5 or more times the level of said enzyme activity in said reference micro-organism.

18 (new). The method of claim 16, wherein said yeast is a *Saccharomyces*, *Kluveromyces*, *Candida*, or *Pichia* yeast.

19 (new). The method of claim 18, wherein the yeast is a *Saccharomyces cerevisiae* strain.

20 (new). The method of claim 15, wherein said micro-organism is a strain of *S. cerevisiae*, *S. kluyveri*, *S. bayanus*, *S. exiguus*, *S. sevazzi*, *S. uvarum*, *K. lactis* *K. marxianus* var. *marxianus*, *K. thermotolerans*, *C. utilis* *C. tropicalis*, *P. stipidis*, *P. pastoris*, *P. sorbitophila*, *Debaromyces hansenii*, *Hansenula polymorpha*, *Yarrowia lipolytica*,

*Zygosaccharomyces rouxii*, *Schizosaccharomyces pombe*, *Aspergillus niger*, *Aspergillus awamori*, *Aspergillus oryzae*, *Aspergillus nidulans*, *Penicillium chrysogenum*, or *Rhizopus oryzae*.

21 (new). The method of claim 15, wherein the micro-organism exhibits an increase of maximum specific galactose uptake rate of at least 10% in comparison to said reference micro-organism.

22 (new). The method of claim 15, wherein the micro-organism exhibits an increase of said enzyme activity of at least 2 fold in comparison to said enzyme activity in said reference micro-organism.

23 (new). The method of claim 15, wherein the micro-organism exhibits an increased maximum specific ethanol production rate compared to said rate in said reference micro-organism.

24 (new). The method of claim 23, wherein said ethanol production rate is increased by at least a factor of 1.5.

25 (new). The method of claim 15, wherein said nutrient source comprises lactose or raffinose.